

1982

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K. FEEDBACK



Personnel

1. John E. Toll, Refuge Manager, GS-485-12, PFT
2. Jerry D. Kuykendall, Asst. Ref. Mgr., GS-485-9, PFT
3. Bennie M. Hull, Bio. Tech., GS-404-7, PFT
4. Harold C. Milligan, Tractor Oper., WG-5705-6, PFT
5. Janis A. Manke, Refuge Asst., GS-303-5, PFT
6. Stuart L. Burnside, Trac. Oper., WG-5705-6, FT
subject to furlough
7. Irvy L. Miller, Trac. Oper., WG-5705-6, FT
subject to furlough
8. Edward R. Moyer, ORP, GS-023-5, PFT

EOD

06-06-81
01-19-78
08-02-65
05-14-75
07-19-76
04-07-72
03-23-80
06-19-78 - 11-22-82

Review and Approvals

John E. Toll
Submitted by

Date

Regional Office Review

Date

Manager Toll serves as an advisor to
the National Uniform Committee. As
you can see, he is well qualified.



A. HIGHLIGHTS

Moist soil units planning and biological farm plans completed (Section D.2)
ORP Moyer transferred to Minnesota Valley NWR (Section E.1)
Increase in management for wildlife diversity (Section G.1)
River otters released by Missouri Department of Conservation (Section G.12)
New equipment building was constructed (Section I.1)
Two BLHP projects completed (Section I.2)
Special Achievement Award for Jerry D. Kuykendall and Bennie M. Hull
(Section J.2)

B. CLIMATIC CONDITIONS

Normal weather is an unheard of condition in northern Missouri. So, this year was predictably unpredictable.

We entered the year with miserably cold weather, -25° with windchills of -50°, and ended the month of January with a 3" rain and flooding. February temperatures were extreme with a low of -26° and a high of 61° which caused rapid thawing and more flooding. Temperatures were mild in March but for the third month in a row there was sufficient rainfall or thawing to flood the refuge. Light snow and sleet greeted us in April, but by the middle of the month much to the relief of the local population, spring had sprung with afternoon highs in the 70's.

In review of weather effects on wildlife, obviously it was a tough winter. The extremely cold temperatures and periodic flooding created a lot of stress on upland species.

May was an extremely wet month with 7.39" of rainfall. Consequently, very little farming was accomplished. Flood conditions ushered in June, but it dried up the latter part of the month allowing us time to get the crops in. July was mild and dry with sufficient moisture for good crop growth.

August was extremely wet with 7.46" of rain, fortunately it was dispersed and no flooding occurred. September, October, and November were inconsequential in terms of negatively affecting refuge management on wildlife. We ended the year with flood conditions and 30 of the 60 refuge goose blinds closed because of the high water.

D. PLANNING

2. Management Plan

The majority of the refuge management plans are adequate and only need minor revision or changing the format to correspond to the new refuge manual.

We have extensively changed our farm plan. In 1979, we began converting to a biological farm plan; that plan was refined and is now fully implemented. In concert with this, marginal farm ground was deleted from the farm program and is being developed into moist soil units. This planning began in 1981, was finalized in 1982, and will become operational in 1983.

Lastly, phases I and II of the Public Use Management Plan were completed and submitted to the regional office.

4. Compliance with Environmental Mandates

An archaeological survey was completed by Mr. Roger Boyd, Northeast Missouri State University, on lands that will be affected by conversion from croplands to moist soil units.

Four prehistoric archaeological sites were located during the survey. Three of the sites were discovered in the survey area and one was adjacent. One site yielded surface material and the other sites are subplowzone and were discovered as a result of past levee construction. No historic or historic architectural resources were discovered during the survey and the project was allowed to proceed as planned.

E. ADMINISTRATION

1. Personnel

Outdoor Recreation Planner Ed Moyer was transferred to Minnesota Valley NWR and promoted to a GS-7. This position will not be refilled.

	<u>Permanent</u>		<u>Temporary</u>
	<u>Full-Time</u>	<u>Part-Time</u>	
FY-82	5	2	
FY-81	5	3	
FY-80	5	3	
FY-79	5	3	
FY-78	5	3	

5. Funding

The work done under BLHP over the past several years has enabled us to complete most major projects needed on this refuge. The one major exception is the completion of riprap on the Silver Lake dike. Funding to carry out the day-to-day operation of the refuge is about right. However, some activities primarily in the I&R area have had to be dropped.

6. Safety

There is an active safety program at this refuge. Monthly safety meetings are given by each staff member. Safety inspections are conducted on a quarterly basis. These inspections are rotated through the staff.

All scheduled safety meetings and safety inspections were completed. There were no lost time accidents during the year.

F. HABITAT MANAGEMENT

1. General

Swan Lake National Wildlife Refuge is located in the floodplain of the Grand River near its confluence with the Missouri River. This is rolling country with many small streams, resulting in rapid runoff, except in the flat floodplains of the larger rivers which are subject to flooding.

As described in Climatic Conditions this refuge is inundated several times a year. The duration, intensity, and impact of each flood varies, and with no two floods alike habitat management is complicated.

2. Wetlands

About 600 acres of cropland are scheduled to be converted to several moist soil units. The work would have been done last summer but summer floods prevented completing the work. We were able to draw down the South Pool after early summer floods. About 1000 acres of smartweed and millet came in on mud flats. Another flood in late summer killed the millet that had come in on the lower area but spared the smartweed. As a result we had excellent use of these areas by waterfowl and had a peak population of 80,000+ ducks; the highest in many years.



Riprap purchased with BLHP funds will save this dike, constructed in the late 1930's

4. Croplands

After successive crop failures due to drought in 1980 and wet fields in 1981, 1982 was successful.

In review of our farm plan, we have a four year rotation. The first year is corn, then clover, followed by milo and concluding the cycle is soybeans. Half of the soybean acreage is plowed down in August for green manure, then sown to winter wheat for browse and the other half is left for the geese to feed on. We have reduced seed costs by growing and combining our own soybean seed.

1982 was a catch-up year for us in farming. Because of the legume failures in 1980 and 1981, many fields were not ready for row crop production. Consequently the rotation was not proportionally divided. Our intent is to have 25% of our farm land in each rotation, i.e., 225 acres of corn, 225 acres of milo, 225 acres of soybeans, and 225 acres of clover. This year we had no corn, 320 acres of soybeans, 110 acres of milo, 223 acres of clover, and 257 acres of winter wheat. Our rotation will be fully operational in 1983.

The farming program began in April with the broadcast seeding of 10 pounds of sweet clover per acre on 223 acres. With sweet clover the first year's growth is short, but the following spring it will grow quite rank reaching heights of 6' before it seeds out in early summer. Our experience has been to promote good first year growth, the clover should be clipped in June for weed control. We also believe that a late summer or early fall mowing will retard weeds and produce some goose browse, but this should be further evaluated. Because of rapid second year growth, spring plow down is difficult and should be done as soon as possible. If it gets over 1' tall it is virtually impossible for us to prepare a good seed bed using conventional disks and our gumbo soils cannot be moldboarded in the spring. New tillage implements, such as a disking plow, would give us the flexibility we need to allow good second year growth for organic matter and still be able to prepare a good seed bed for the row crop.

The 110 acres of milo were planted in ground that was sown in sweet clover the previous year. Seeding rate was 7 pounds per acre, we didn't use any chemical fertilizers or herbicides and our yield was 101 bushels per acre. We interseed 48 acres of milo with 10 pounds of sweet clover at lay by; the seed germinated and produced clover 2" high by fall. Whether the geese trampled out the young clover while feeding in the milo will not be known until spring. It is our hope the clover developed a sufficient root system to withstand the trampling, and will come on in the spring. If it does this will give the soil an extra shot of nitrogen and green manure.

Soybean yields were excellent, averaging around 45 bushels per acre. Wonderlife, a humate based compound used to stimulate organic and microorganism growth in the soil, was used on two test plots. It was used for two consecutive years and applied with a fertilizer cart at a rate of 400 pounds per acre. The Wonderlife plot yielded one bushel per acre less than the non Wonderlife. We realize that two years testing and only one year's yield analysis is inadequate for absolute conclusions, but because of economics and our skepticism based on early results we have no further plans to use Wonderlife.

We planted 257 acres of winter wheat for goose browse.

The Missouri Department of Conservation planted 120 acres of milo, 30 acres of soybeans, and 405 acres of winter wheat in the public hunting area on the refuge. Their milo yield was 75 bushels per acre and the beans yielded 33 bushels per acre.

5. Grasslands

Approximately 100 acres of grasslands are managed to produce goose browse and goose loafing sites. Another 300 acres are managed for native grasses and associated fauna.

8. Haying

Forty acres of Reeds canary grass were hayed along Elk Creek for brush control and to produce a goose loafing site. The work was accomplished by a Special Use Permit issued to a local farmer.

9. Fire Management

The refuge manages 300 acres of native grasses by prescribed burning. This unit is scheduled for a spring burn in 1983, if we obtain the necessary fire training between then and now. There are no wildfire problems on this refuge.

12. Wilderness and Special Areas

About 1000 acres of bottomland timber have been designated as a Research Natural Area.

C. WILDLIFE

1. Wildlife Diversity

Wildlife diversity has been one of our prime goals for the past two years. Although we will continue to meet our obligations for waterfowl management we are looking for ways to increase habitat diversity.

Some of these are; conversion of row crops to moist soils, allowing isolated corners and cropland borders to revert to timber through natural succession and to manage water levels for the benefit of all wildlife species.

2. Endangered and/or Threatened Species

The bald eagle and the peregrine falcon are the only nationally listed endangered species found on this refuge. Eagles are quite common in their occurrence here, but falcons are rare.

Bald eagles begin arriving in October, peak populations occur in December-January, and they migrate north in March. Eagles utilize the refuge for roosting, loafing, and feeding.

There has been a steady decline in eagle use-days on the refuge for the past four years. In 1979, the peak was 181, in 1980, it was 139, in 1981, there was a peak population of 82, and this year the peak was 45 birds. In the 1981 narrative we stated "This decline is attributed to a decline in the goose use-days on the refuge. Our records and observations shows that eagle use-days on the area are directly proportional to waterfowl use-days." At that time this appeared to be true but this fall our waterfowl populations were high but eagle numbers continued to decline. Apparently, our 1981 statement was too simplistic.

There were no sightings of peregrine falcons this year.

The following wildlife found on this refuge are on Missouri's Endangered Species List: marsh hawk, sharp-shinned hawk, Cooper's hawk, King rail, upland sandpiper, least tern, osprey, smooth green snake, and long tailed weasel.

3. Waterfowl

After two consecutive disappointing years the Canada goose numbers improved, with a peak population occurring in October of 133,000 geese. The goose population has remained high throughout the fall with a November peak of 115,000 and a December high of 124,000 birds.

The snow/blue goose population peaked at 9500 in October, a considerable decline from the highs of 20,000 in 1981 and 50,000 in 1980.

Fall duck populations have been normal with the exception of large concentrations of mallards. Typically, 25,000 mallards can be found on the refuge during the fall but this year we had a peak population of 62,100 in November and 82,000 in December.

Other duck populations were "normal". For example, in October there were:

Mallard	10,000	American widgeon	1,000
black	100	shoveler	1,000
gadwall	5,000	wood duck	1,000
pintail	1,000	ring-necked	5,000
green-winged teal	500	lesser scaup	26,000
blue-winged teal	1,000		

The lesser scaup numbers were considerably higher than the normal peak of 5000, but they only stayed a few days.

4. Marsh and Water Birds

During the spring, summer, and fall, a diversity of marsh and water birds could be observed throughout the refuge. Species frequently encountered were white pelicans, American bitterns, great blue herons, pied-billed grebes, and great egrets. Also observed, but less common, were black crowned night herons, yellow-crowned night herons, green herons, and double-crested cormorants.

On September 27, 1000 white pelicans were counted on Swan Lake.

5. Shorebirds, Gulls, Terns, and Allied Species

Common species are greater yellowlegs, killdeer, black terns, common snipe, ring-billed gull, Bonaparte's gull, and several sandpiper species.

6. Raptors

Raptor populations were down this year. Marsh, rough-legged, and red-tailed hawks were the most numerous with peaks of 10. The reason for this decline in raptor use on the refuge is not known.

7. Other Migratory Birds

The mourning dove population peaked at 2500, in August.

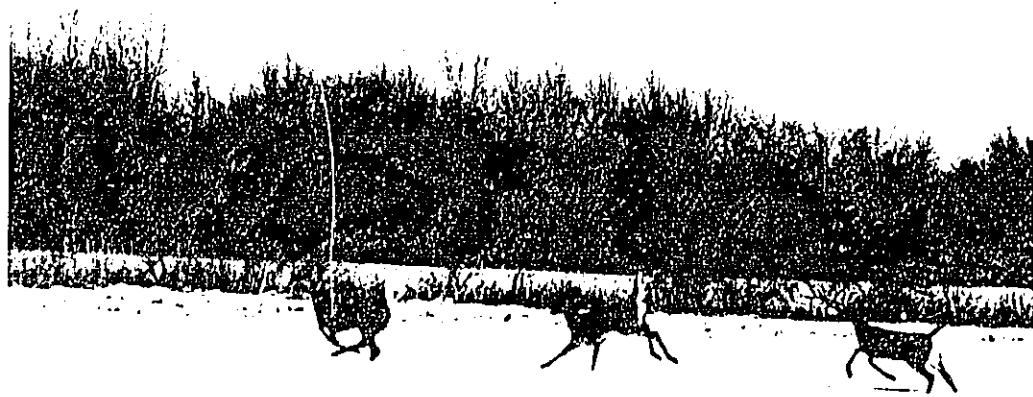
8. Game Mammals

White-tailed deer, cottontail rabbits, squirrels, and raccoons are classified as game mammals in Missouri. All of which occur in abundance on this refuge.

During the late fall and early winter the deer herd increases to a peak population of 500. It is not unusual to see 50 to 75 deer feeding in a bean field.



Part of the largest concentrations of white pelicans in Missouri



Study in motion

We estimate the rabbit population at 2000; fox squirrels number a very conservative 1000; and we guess that 250 raccoons are on the refuge.

10. Other Resident Wildlife

Beaver activity is abundant in all the creeks and lakes. Management problems have been occurring in some areas with plugged culverts, backed up water, poor drainage, and eroded levees. A control program is needed but as long as pelts are worthless there will be little commercial interest. There is a small flock of turkeys in the Yellow Creek area.

11. Fisheries Resources

We are holding Silver Lake at spillway level now, two feet above past levels. In response to the deeper water channel cat fishing seems to have improved. The higher lake level has eliminated the problems of winter kill and oxygen depletion because of summer drought.

The higher water levels are a result of our moist soil plan. Silver Lake is being used as the main reservoir to flood the moist soil units.

12. Wildlife Propagation and Stocking

On March 16, Missouri Department of Conservation released 13 river otters, followed by a release of 6 animals on May 12, here on the refuge. The otters were obtained from the State of Kentucky, which purchased them from the State of Louisiana. The release was quite a media event with over 100 people attending.

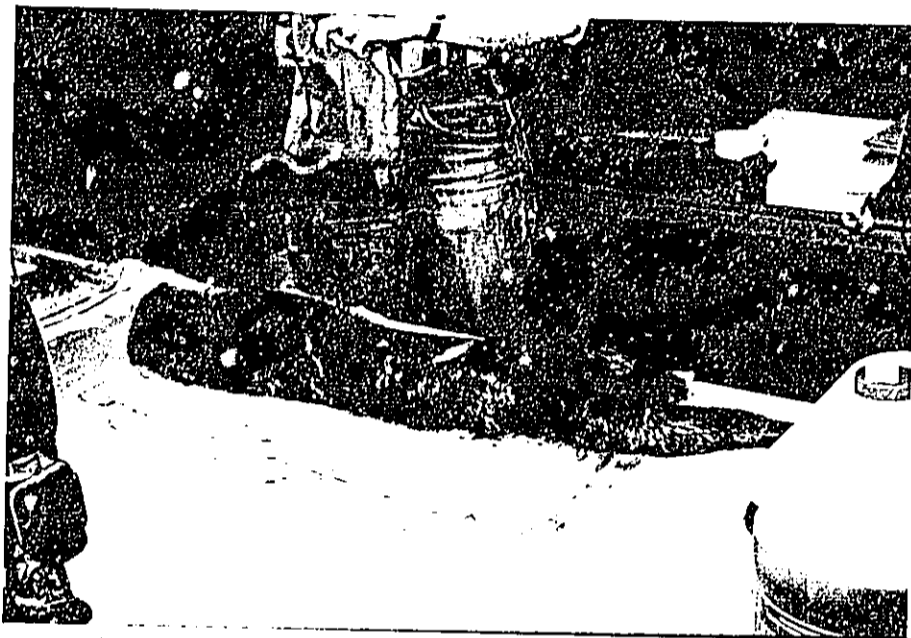
All of the otters were implanted with a transmitter in the abdomen. As of this writing, the State has contact with 13 otters and believes that one or two others are still alive but have faulty transmitters. Most of the otters have remained on the refuge.

15. Animal Control

Several depredations complaints concerning Canada geese on winter wheat were received and scare-away guns were loaned. The farming community in the local area have become educated to Canada geese and pretty well handles the situation themselves.

16. Marking and Banding

Banding quotas for pre-season and post-season called for 500 immatures or 2000 Canada geese total, whichever came first.



A transmitter was installed in the body cavity of each otter



Blood samples were taken from each animal



Hey man, this don't look like Louisiana to me!



The release had wide news media coverage. Several TV stations were present.



Hopefully, otter will reestablish after over a 50-year absence from north Missouri.



One year later most of the otter are still on the refuge.

Post-season banding was a flop as only 124 geese were banded., Pre-season banding was better as 1063 adults and 419 immatures were banded. We sent 200 immatures to Arkansas in response to their desire to begin building up their goose flock. They wing clipped the birds and plan on holding them for a year. It is their hope that when the birds migrate south they will return to Arkansas. Seems like a hopeless plan; maybe they should try to establish a resident giant Canada goose program. Many will remember our efforts in the 60's when we trucked thousands of Canada geese south hoping to establish flocks there.

Our perpetual wood duck banding quota was finally rescinded.

H. PUBLIC USE

1. General

The aim of our public use policy this year was to make it less labor intensive. For years we have had an open house just prior to goose season to allow people to view the geese. Last year we extended this over two weekends to spread the visitors over a longer period. This year we left the refuge open to all activities until October 15, two weeks longer than normal, so that wildlife viewing would be spread over a two week period. This worked fine and will now be our standard closing date. With the loss of our I&R position our activities in this area will be limited to basics and all environmental activities will be discontinued.

4. Interpretive Foot Trails

The Habitat Trail was used by 1200 people this year. It is a pleasant place to take a walk and is a favorite of spring bird watchers.

7. Other Interpretive Programs

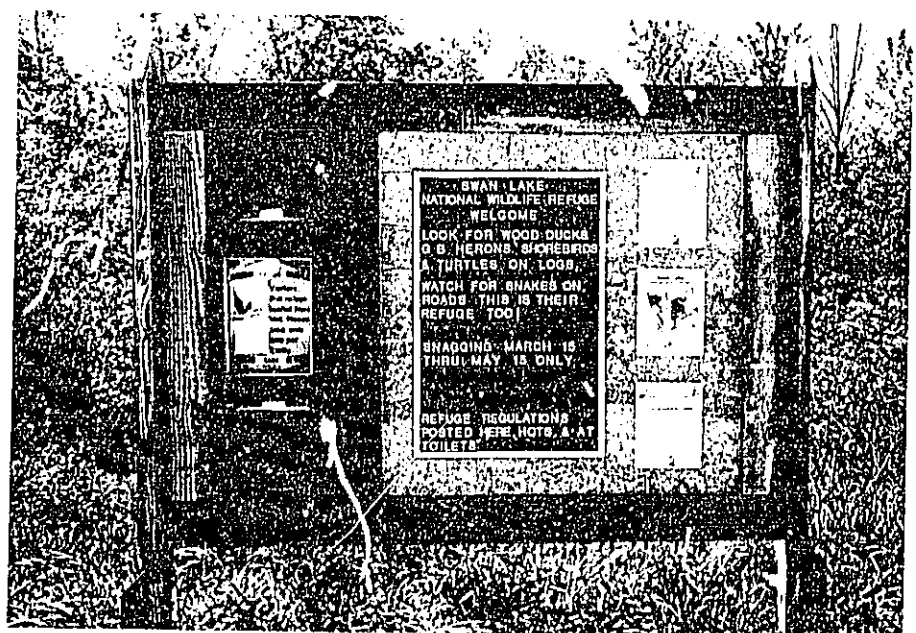
Eagle Days were conducted again this year in cooperation with the Missouri Department of Conservation. Heavy snows prevented us from allowing people in the interior of the refuge for viewing. Most visitors were able to see eagles from our tower or on the entrance road. A live captive eagle was shown by the Dickerson Park Zoo of Springfield, Missouri.

8. Hunting

Goose - The Missouri Department of Conservation administered the hunting for geese. Goose hunting was slow again this year with the total harvest being 2864. Lower numbers of young geese are showing up in the bag which indicates that Minnesota and Iowa may be taking several geese before they get to Missouri.



These signs replaced trash barrels. Time saved is used to do a better job of picking up scattered litter. Results? Cleaner refuge at less cost.



Information board and leaflet dispenser designed and constructed by ORP Ed Moyer

Deer - The third Historic Weapons hunt was conducted this year with 151 hunters taking 23 deer. A survey, by the State, of the hunters indicated that over 90% liked the hunt the way it was conducted. They indicated it was a quality hunt for them and they really did not expect to get a deer.

9. Fishing

For the first time ever outboard motors of ten horsepower or less were permitted on Silver Lake. Channel cat fishing was excellent, with many three pounds and up fish being taken. We had a total of 19,500 fishermen in 1982, and expect this number to be higher in future years.

11. Wildlife Observation

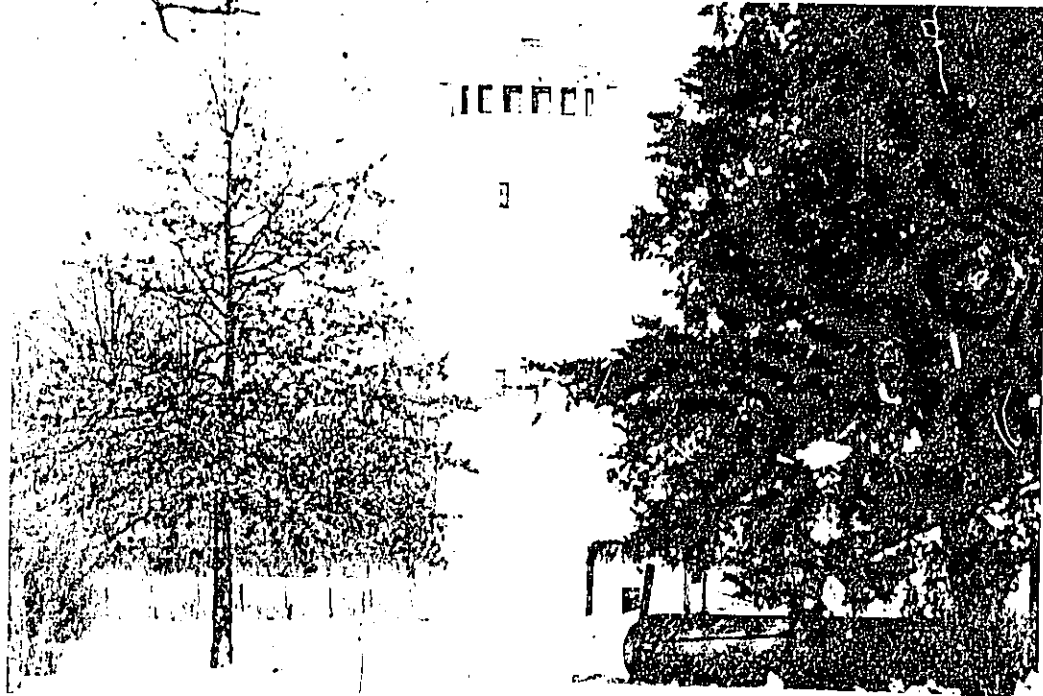
Wildlife observations makes up more than one half of our non-consumptive recreation. Most of this is people coming to view the large concentrations of waterfowl. Locals, many family groups, drive through the refuge at dusk to see deer and other wild animals. Bird watchers are few in numbers but dedicated supporters of the refuge program.

17. Law Enforcement

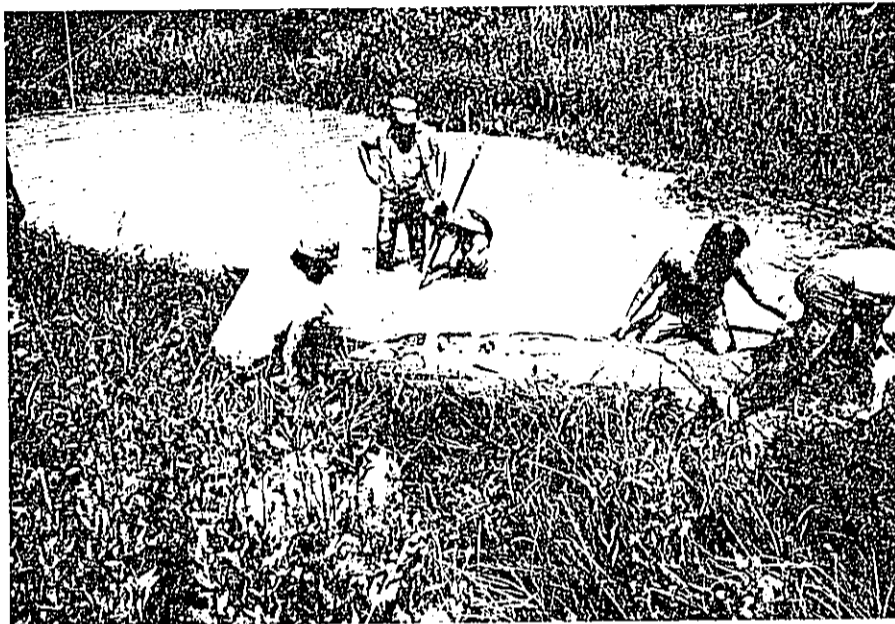
All of the permanent, full time staff, except the refuge clerk, now have enforcement authority. We have excellent cooperation from the State and our own special agents.

Listed below are the citations, fine, and cost:

<u>Citation</u>	<u>Federal</u>	<u>State</u>	<u>Fine</u>	<u>Cost</u>
Possess lead shot		2	\$ 20.	\$ 56.
Possess more than 10 shells	3			
Refuge trespass/vehicle		14	140.	392.
Possess firearm/unauthorized use	2			70.
Take over limit geese		1	100.	28.
Unplugged gun		2	20.	56.
Non-resident hunt on resident permit		5	250.	140.
Shot over 10 shells		1	10.	28.
Hunt deer on false permit		2	200.	56.
Failure to immediately kill goose	1			35.
Hunt geese out of blind		1	5.	28.
Kill protected species (whistling swan)	1		100.	
Fish without permit		1	5.	23.
Shot after hours		1	10.	28.
	<u>7</u>	<u>30</u>	<u>860.</u>	<u>940.</u>
total				



This old silo, converted to an observation tower, is one of the most popular visitor stops on the refuge.



It's a muddy mess,



but people come from all over to participate in
seining day.

I. EQUIPMENT AND FACILITIES

1. New Construction

We began construction on a new equipment storage building. The materials had been purchased by YACC and stored at Louisa NWR. We had the building transported to Swan Lake by a commercial trucking company and construction has been by force account. The structure measures 64' x 32' and is 90% completed at this time.

We took delivery on \$22,000 worth of plastic pipe and cast iron gates and valves for our moist soil units. Materials were purchased by BLHP and construction will be force account. Construction should begin in the spring of 1983.

2. Rehabilitation

We replaced five sluice gates, repaired two water structures, placed 4619 tons of riprap, and spread 1366 tons of filter blanket. The work was completed by a BLHP contract at a total cost of \$168,505. Also, 1400 tons of gravel were tail gate spread on refuge roads.

Work continues on the rehab of Dike A. This cropland protection levee was constructed in 1980, under BLHP. In 1981, it was breached in four places by floods. The original contract was renegotiated and the dike is being constructed a foot higher and two feet wider than the initial specifications.

4. Equipment Utilization and Replacement

No equipment or vehicles were purchased in 1982.

We had several problems with our 710A Champion road grader. This machine was purchased new in 1980, and has had one problem after another. A Cat may cost more, but I bet in the long run this Champion will be more costly.

6. Energy Conservation

A Setz wood burning stove was installed in the shop and the entire shop was insulated. Our heat bills are virtually zero now.

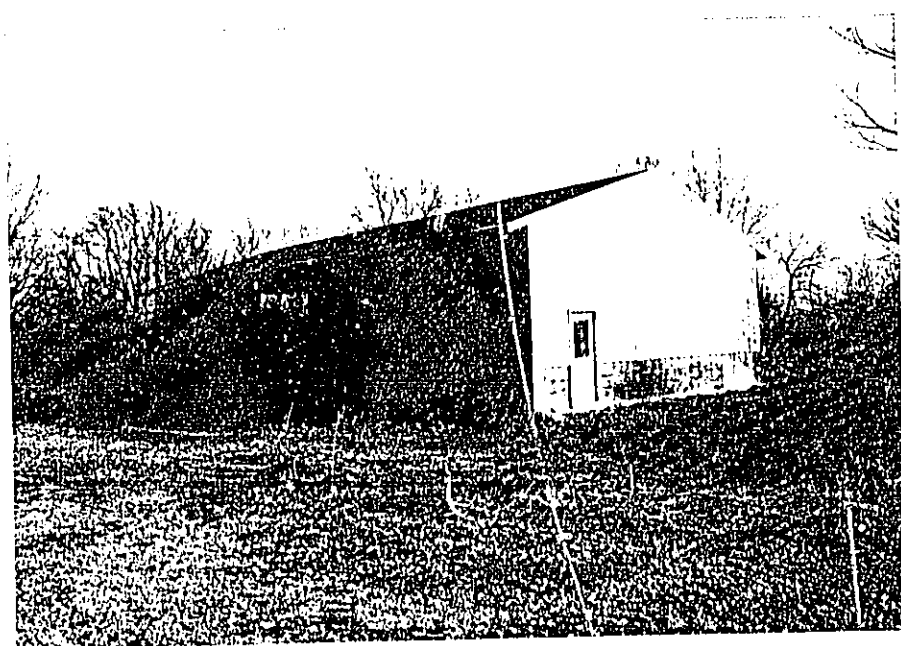
J. OTHER ITEMS

2. Items of Interest

Retired Refuge Manager Al Manke had a stroke in June. It's been a long, hard road back for Al but he is now doing fine in spite of losing the use of his right arm.



Surplus material for an intended YACC headquarters building on Mark Twain,



resulted in a much needed equipment storage building for the refuge; just our labor and a few bucks for odds and ends.



All water gates were replaced with BLHP funds



She don't look so hot but it gets hot. Reduced heating costs for shop resulted.

Again, as in 1981, the refuge was flooded several times during the year.

Bennie M. Hull and Jerry D. Kuykendall both received Special Achievement Awards in the amount of \$500 each for their jobs well done during the year.

3. Credits

Sections A, B, C, D, F (except F-2), G (except G-1), and I -
Assistant Refuge Manager Kuykendall

Sections E, E-2, G-1, H, J, and K - Refuge Manager Toll

Typing - Refuge Assistant Manke

K. FEEDBACK

Much of the field station's time is spent making out reports, completing surveys from the Regional and Washington office, etc. In most cases these paper activities feed and support the organization above us but contribute very little towards helping us run the refuge. A few years ago a committee reviewed with the field the amount of paper work that was required and in what manner it contributed to our management efforts. To my knowledge there was no decrease in our paper load nor do I recall any report of the committee's findings.

Is the Feedback Section working in the same manner? Is this another one-way street? What action, if any, is taken on the hundreds of items that must come to you through feedback? What person, or persons, have the responsibility for reviewing, consolidating, and acting on at least some of the items that are brought up in Feedback?